

REMARKS

This Amendment is a full and timely response to the Office Action dated August 14, 2006. Reexamination and reconsideration are respectfully requested.

The drawings are objected to under 37 CFR 1.83 (a). The Office Action states that the pair of concavities formed into the side surface of the link set forth in claim 9 must be shown or the features must be canceled from the claims. It is respectfully submitted that the pair of concavities are illustrated in the drawing figures. In Figure 4, reference numeral 45a is a concavely curved surface which forms a concavity. Note in Figure 4, that boss part 36 is received by the concavely curved surface 45a, i.e., the concavity. Please note in Figure 5, there is a pair of boss parts 36. It is respectfully submitted that one of ordinary skill in the art would comprehend that the external link 4 shown in Figure 4 must have a pair of concavities to accommodate the pair of boss parts 36. Withdrawal of the objection is respectfully requested.

The specification is objected to for failing to provide proper antecedent basis for the claimed subject matter in the claims 8 and 9. The claims are amended as shown above to obviate the objection. Withdrawal of the objection is respectfully requested.

Claims 1, 5, 6, 7, 8 and 9 are rejected under 35 U.S.C. 103(a) as anticipated by Maguire et al. (U.S. Patent No. 6,322,173) in view of Maguire et al. (U.S. Patent No. 6,783,196) and Bottom et al. (U.S. Patent Application Publication No. 2002/0145336). Claims 2-4 are rejected under 35 U.S.C. 103(a) as unpatentable over Maguire 173 and Maguire 196 and Bottom and further in view of Lawson. The rejections are respectfully traversed.

Shown in Fig. 4 of Bottom are rotating track bushing 92 (configuration D), first structure 12 and second structure 14. The first structure 12 has first track link 22 and second track link 24 whereas the second structure 14 has first track link 29 and second track link 30. It is disclosed herein that the first track link 22 which is disposed on the inner side is wider than the first track link 22 which is disposed on the outer side (configuration A).

However, Bottom does not teach a shape of the link in a direction where track chains are connected.

According to the present invention, on the other hand, there are two kinds of links; namely, internal and external links which are combined alternately thereby forming a track link (configuration B). The internal link is formed symmetrically with respect to the central longitudinal axial line when viewed from the front (configuration C).

The above structures B, C (and D) are disclosed by Maguire (US6,322,173).

The Examiner asserts that the present invention is obvious in view of Bottom and Maguire. However, the present invention is patentable because of combination of the structures (B + C + D) with structure A for the following reasons:

Maguire (USP 6,322.173) which is the closest prior art discloses the following structures:

B: an alternate combination of external links and internal links which forms a track link;

C: the internal link and the external link are symmetric with respect to a vertical axis line; and

D: a rotatable bushing.

However, the combination of the above structures has a problem in terms of decrease in link rigidity like JP06-504747 does, as discussed in the applicant's specification. It is necessary that all track shoes are identical while having the above structure (B). Accordingly, bolt insertion holes should be arranged linearly parallel to a link connecting direction (i.e. bolt Insertion holes are on line A as shown in Illustrative Figure 1 attached hereto.

The track link disclosed by Maguire inevitably suffers from the problem of rigidity deficiency as a result of having the above structure D, like JP06-504747 does (please refer to pages 3 to 4 of the specification in which JP06-504747 is discussed). The Internal link is a portion of great concern, of which the vicinity of the bolt insertion hole is an especially problematic portion. Therefore, it is necessary to thicken the vicinity of the bolt insertion hole of the internal link. However, since the bolt insertion holes are arranged on line A as discussed above, if the vicinity of the bolt insertion hole is simply thickened, flexion angle (Θ' in Illustrative Drawing Fig. 2 attached) of matching surface of the internal and the external links becomes large, leading to stress concentration. Accordingly, securing required rigidity is not possible. As means for solving the

problem, in the present invention, bushing hole 34 that is one of the starting points for stress generation of the internal link is made to be thicker than corresponding coupler pin hole 43 of the external link, thereby making flexion angle (Θ in Illustrative Drawing Figure 2 attached) smaller. Accordingly, aspect change of the link in a connecting direction becomes smaller, avoiding the stress concentration in the link, and the rigidity is virtually increased.

Although the configuration of the present invention itself is yielded by the combination of Bottom and Maguire, it is the finding of the problem that counts that rigidity of the inner link decreases inevitably because of the use of rotatable bushing when compared to a conventional technique in which the fixed bushing is used (see Fig. 7(a) and 7(b)). As means for solving the problem, the present invention has a link structure in which the internal links and the external links are alternately connected and the bushing hole of the internal link is made to be wider than the coupler pin hole of the external link. The technical idea to combine Bottom and Maguire in view of the above problem is new, therefore, rejections under 103 are inappropriate.

At least for the reasons set forth above, withdrawal of the rejection is respectfully requested.

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

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Respectfully submitted,

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Enclosures: Amendment Transmittal
Petition for Extension of Time (1 month)
Illustrative Drawing Figs. 1 and 2

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